Requirements for Undergraduate Degrees

Overall Requirements for Baccalaureate Degrees

A candidate for a baccalaureate degree must present a minimum of 120 semester hours (except where otherwise noted in degree program descriptions). A minimum overall cumulative grade point average of $C$ (grade point average of 2.00) must be made in all courses taken, and an overall cumulative grade point average of at least 2.00 must be attained in the major except in those programs requiring a grade point average above 2.00. Grades in all courses taken, including failing grades (except courses in which grade forgiveness was applied), are counted when calculating a student’s cumulative grade point average. Grades in all courses taken in the major, including failing grades, are counted when calculating a student’s grade point average in the major. Students completing a minor must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the minor.

A student who seeks a bachelor’s degree from Old Dominion University must, in addition to meeting other requirements of the University, earn a minimum of 25 percent of the total number of credits required for the degree (for example, 30 credits in a 120-credit degree program) through on- or off-campus instruction. This must include a minimum of 12 credit hours of upper-level courses in the declared major program. Some program residency requirements exceed the University minimum. Courses taken at Old Dominion University (as the host institution) through the Virginia Tidewater Consortium do not count toward resident credit. The responsibility for meeting the requirements for a degree rests with the student.

College Requirements

Students should consult with the department of their major for further information regarding the following.

1. Major programs may require specific Skills or Ways of Knowing courses.
2. When requirement hours vary, major programs specify the number.
3. In addition to the University General Education Requirements, college requirements must be met. For example, the College of Arts and Letters and the Strome College of Business require foreign language proficiency at the fourth-semester level (202) for the Bachelor of Arts degree.

Requirements for Major

Each undergraduate student shall select a major department or option at the appropriate time in his or her curriculum. In consultation with the head of his or her major department or a designee, such as the chief departmental advisor, the student shall select the courses for the major. At least 12 hours of upper-level course work in the declared major program must be taken at Old Dominion University in resident or extension study. All students must complete a writing intensive (W) course in the major at the upper-division level at Old Dominion University and earn a grade of C (2.0) or better.

Additional Requirements for Baccalaureate Degrees

A student may not use courses in the discipline of his or her major to fulfill University General Education Requirements in the following Ways of Knowing areas: Human Behavior, Human Creativity and the Nature of Science.

Students should note that credit toward a degree cannot be obtained for material of what is essentially the same course, but offered in various introductory courses for different audiences.

Evaluation of Writing Proficiency

All students following undergraduate degree programs must pass the University’s Evaluation of Writing Proficiency. See the Undergraduate Writing Program Requirements section of this catalog for more information.

Assessment Requirement

In response to demands by the University’s accrediting agencies, including the Southern Association of Colleges and Schools – Commission on Colleges and the State Council or Higher Education for Virginia, Old Dominion University has developed an institution-wide plan to assess the quality of its academic programs and services. The plan calls for the assessment of student learning at the beginning, during, and at the end of the college experience.

Upon enrollment in the University and again prior to the completion of degree requirements, all undergraduate students must take one or more measures related to the University’s assessment plan. Students will be notified about the requirement to complete the measures through their University email address. The email invitations will contain a link to the University’s web-based assessment tool where the measures can be completed at the student’s convenience. Assessment results are used for program improvements and thus are not a part of the student’s transcript.

Sanctions for Noncompliance with Assessment Testing Requirement

All undergraduate students are required to participate in the assessment program. Failure to take assessments when required to do so may preclude the student’s right to register for the ensuing semester, or in the case of seniors, receive the baccalaureate degree.

The University will make all reasonable efforts to assure that students have ample opportunities to complete the required assessments. However, certain precautions will be taken to ensure that students submit to the assessment measures and that they take the measures seriously. Further information regarding sanctions procedures is available in offices of college deans and the University Assessment Office.

University General Education Requirements

All students receiving baccalaureate degrees from Old Dominion University shall complete the University’s General Education Program. At the lower division (freshman and sophomore), the program’s designed courses develop the Skills (Goals 1-2 below) needed for later study and the Ways of Knowing (Goals 3-4) needed to understand the various approaches to knowledge at work in the University. At the upper division (junior and senior), Options B, C and D provide a multidisciplinary experience to broaden the student’s ability to apply the Skills and Ways of Knowing at a more advanced level.

General Education and Prior Learning Assessment

All lower-level requirements within this program may be met by credit awarded to students who are able to demonstrate appropriate prior learning that fulfills the objectives of the particular Skills and Ways of Knowing requirements. Though not all learning and experiences are worthy of being recognized with the reward of academic credit, the principle that supports the policy is that many valid learning experiences worthy of such credit do take place outside of the traditional classroom setting. For procedures to meet General Education Requirements in this manner, please consult the section of this Catalog on Prior Learning Assessment Credit Options at the Undergraduate Level and visit the Prior Learning Assessment web site at https://www.odu.edu/academics/academic-records/evaluation-of-credit/prior-learning.

General Education Philosophy

The General Education program at Old Dominion University represents the common core of the baccalaureate degree. It prepares students for pursuing a major, for broadening their views of life, and for understanding an increasingly global and diverse world. It provides students with the basic
skills and intellectual perspectives to engage in the search for knowledge. The General Education program develops analytical and critical thinking skills and the ability to make reasoned judgments. Students will also discover that learning is a complex, multifaceted, and lifelong endeavor.

General Education Goals and Objectives
The Goals (1-5) and particular objectives of General Education are as follows:

1. Develop and demonstrate effective uses of language.
   a. Develop written communication skills.
   b. Develop oral communications skills.
   c. Develop ability to use a foreign language and learn about another culture.
   d. Develop written communication skills in the major at the upper-division level.

2. Develop mathematical and information literacy.
   a. Develop basic mathematical competence.
   b. Develop information literacy competence.

3. Develop an understanding of the natural sciences and technology and their contributions to human culture.
   a. Understand the concepts and methods of the natural sciences.
   b. Understand the nature of technology and its impacts on society and the environment.

4. Develop an understanding of human behavior, society and culture, with specific attention to technology, international perspectives and issues related to ethnicity, race and gender.
   a. Develop an understanding of history and the ability to think critically about the past.
   b. Think critically about beliefs, values, and moral issues that have shaped human society.
   c. Critically analyze the fine and performing arts and their contribution to culture.
   d. Critically analyze literature and its contribution to culture.
   e. Develop an understanding of behavioral, political, economic, and social systems.

5. Integrate knowledge at the advanced level.
   Option A. Complete a minor, second major or second degree.
   Option B. Complete an interdisciplinary minor.
   Option C. Complete international business and regional courses or an approved certification program such as teaching licensure.
   Option D: Complete upper-division course work from another college or approved certification program such as teaching licensure.

Students may not use courses in the discipline of their declared major to fulfill University General Education Requirements in the following Ways of Knowing areas: Human Behavior, Human Creativity and the Nature of Science.

Since the Skills and Ways of Knowing are needed for major courses and Upper-Division General Education, students should meet those requirements during their freshman and sophomore years.

Transfer Policies for General Education Requirements
Students who have received any of the following associate degrees from Richard Bland College or the Virginia Community College System have met all lower-division General Education requirements, except those specified as major or college requirements and requirements for completion of the undergraduate writing program: Associate of Arts (A.A.), Associate of Science (A.S.) with any major other than general studies (see the next paragraph for additional information), and Associate of Arts and Sciences (A.A. & S.), including the A.A. & S. with a major in general studies.

Effective Fall 2010, the A.S. degrees in general studies that are offered by those institutions whose general studies degrees are recognized as transfer degrees by the State Council of Higher Education for Virginia will also be guaranteed acceptance as meeting lower-division General Education Requirements. A.S. degrees in general studies received from those institutions whose general studies degrees are not recognized by the State Council of Higher Education for Virginia will be examined individually to determine whether the degrees are university parallel programs and eligible for lower-division General Education requirement waivers.

Students who have earned an Associate of Applied Science (A.A.S.) degree from the Virginia Community College System that includes the required General Education courses have met all lower-division General Education requirements except those specified as major or college requirements and the requirements for completion of the undergraduate writing program. College-parallel programs at other community colleges or systems (consistent with the requirements of degrees from the Virginia Community College System) are also accepted as meeting lower-division General Education requirements and are reviewed by the Office of Undergraduate Admissions. Transfer students should be aware that even though University lower-division General Education Requirements may have been met, college, school and/or departmental requirements must still be met. Students must earn a grade of C (2.0) or better in order to receive the credit hours associated with classes taken at other regionally accredited institutions.

Policies governing the transfer of General Education Requirements can be found in the Admissions section of this catalog. See the transfer student website for the complete listing of articulation agreements at http://uc.odu.edu/advising/transfer.

Lower-Division Requirements (freshman and sophomore years)

I. Skills
Completion of course work in the skills areas ensures that all students possess the basic tools with which to pursue their major interests.

A. Written Communication
Students are advised to consult the department of their major program and the Undergraduate Writing Program Requirements section of this catalog.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 110C</td>
<td>English Composition (grade of C or better required)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 211C</td>
<td>English Composition (grade of C or better required)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 221C</td>
<td>Introduction to Writing in Business, Education and Social Sciences (grade of C or better required)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 231C</td>
<td>Introduction to Technical Writing (grade of C or better required)</td>
<td>3</td>
</tr>
</tbody>
</table>

Undergraduate students must pass ENGL 110C with a grade of C (2.0) or better in order to qualify to register for ENGL 211C or ENGL 221C or ENGL 231C.

Students must also pass ENGL 211C or ENGL 221C or ENGL 231C with a grade of C (2.0) or better to qualify to register for a writing intensive (W) course.

Total Hours 6

B. Oral Communication

Select one of the following courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 101R</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>COMM 103R</td>
<td>Voice and Diction</td>
</tr>
<tr>
<td>COMM 112R</td>
<td>Introduction to Interpersonal Communication</td>
</tr>
<tr>
<td>DANC/THEA 152R</td>
<td>Acting One</td>
</tr>
</tbody>
</table>

Total Hours 3

Requirements for Undergraduate Degrees 2
Students may meet this requirement by completing an oral communication course appropriate to the student’s program of study or through an approved course(s) within the major. Students are advised to consult the department of their major program.

Majors approved to meet this requirement through major courses are: College of Arts and Letters – communication, music composition, music education, all theatre arts majors, world languages and cultures concentrations in French, German and Spanish, and world languages and cultures teacher preparation; College of Education - human services; College of Health Sciences - medical technology, nursing, dental hygiene, health sciences health services administration major, health sciences public health major, and health sciences cytotechnology track; and College of Sciences - ocean and earth science.

C. Mathematics

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101M</td>
<td>An Introduction to Mathematics for Critical</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
</tr>
<tr>
<td>MATH 102M</td>
<td>College Algebra</td>
</tr>
<tr>
<td>MATH 103M</td>
<td>College Algebra with Supplemental Instruction</td>
</tr>
<tr>
<td>MATH 162M</td>
<td>Precalculus I</td>
</tr>
<tr>
<td>STAT 130M</td>
<td>Elementary Statistics</td>
</tr>
</tbody>
</table>

Total Hours: 3

For the appropriate course, the major program should be consulted. Some programs require more advanced 200-level courses.

Students should strive to complete the mathematics General Education requirement within their first 30 hours at Old Dominion University and are expected to have completed the requirement before the end of their first 60 hours at the University. Students should be aware that waivers of the mathematics General Education requirement are not granted, and all students are required to complete this requirement before graduating.

D. Language and Culture*

Select 0-6 hours from the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARAB 111F</td>
<td>Beginning Arabic</td>
</tr>
<tr>
<td>CHIN 111F</td>
<td>Beginning Chinese</td>
</tr>
<tr>
<td>FARS 111F</td>
<td>Beginning Farsi</td>
</tr>
<tr>
<td>FR 101F</td>
<td>Beginning French I</td>
</tr>
<tr>
<td>&amp; FR 102F</td>
<td>Beginning French II</td>
</tr>
<tr>
<td>GER 101F</td>
<td>Beginning German I</td>
</tr>
<tr>
<td>&amp; GER 102F</td>
<td>Beginning German II</td>
</tr>
<tr>
<td>HEBR 111F</td>
<td>Beginning Hebrew I</td>
</tr>
<tr>
<td>ITAL 101F</td>
<td>Beginning Italian I</td>
</tr>
<tr>
<td>&amp; ITAL 102F</td>
<td>Beginning Italian II</td>
</tr>
<tr>
<td>JAPN 111F</td>
<td>Beginning Japanese</td>
</tr>
<tr>
<td>LATN 101F</td>
<td>Beginning Latin I</td>
</tr>
<tr>
<td>&amp; LATN 102F</td>
<td>Beginning Latin II</td>
</tr>
<tr>
<td>PRTG 101F</td>
<td>Beginning Portuguese I</td>
</tr>
<tr>
<td>&amp; PRTG 102F</td>
<td>Beginning Portuguese II</td>
</tr>
<tr>
<td>RUS 101F</td>
<td>Beginning Russian I</td>
</tr>
<tr>
<td>&amp; RUS 102F</td>
<td>Beginning Russian II</td>
</tr>
<tr>
<td>SPAN 101F</td>
<td>Beginning Spanish I</td>
</tr>
<tr>
<td>&amp; SPAN 102F</td>
<td>Beginning Spanish II</td>
</tr>
<tr>
<td>SPAN 121F</td>
<td>Intensive Beginning Spanish</td>
</tr>
</tbody>
</table>

Total Hours: 0-6

111F courses are six credit hours each. Students may meet this requirement by successfully completing the third level in one foreign language or the second level in each of two foreign languages in high school or by completing a single foreign language at the 102F or 111F level or equivalent work from another institution. Students who have had some foreign language experience but are unable to be exempted from this requirement may complete just the 121F course in the case of Spanish or the 102F course in foreign languages if scores on the CEEB Foreign Language Achievement Test so indicate.

The College of Arts and Letters and the Strome College of Business require foreign language proficiency at the fourth-semester level for students pursuing Bachelor of Arts degrees.

Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the World Languages and Cultures Department to obtain a waiver of the 200-400 level courses.

American Sign Language courses taken in high school or transferred to Old Dominion University from another institution are accepted by Old Dominion University to meet General Education requirements in language and culture. American Sign Language courses transferred from another institution are accepted to meet the foreign language requirement for B.A. degrees in the Strome College of Business and the College of Arts and Letters except for Asian Studies, foreign languages and international studies.

* Does not apply to students earning high school diplomas before December 31, 1985.

E. Information Literacy and Research

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 120G</td>
<td>Introduction to Information Literacy and Research</td>
</tr>
<tr>
<td>CS 121G</td>
<td>Introduction to Information Literacy and</td>
</tr>
<tr>
<td></td>
<td>Research for Scientists</td>
</tr>
<tr>
<td>HLTH 120G</td>
<td>Information Literacy for Health Professions</td>
</tr>
<tr>
<td>IT 150G</td>
<td>Basic Information Literacy and Research</td>
</tr>
<tr>
<td>LIBS 110G</td>
<td>Information Literacy for the Digital Age</td>
</tr>
<tr>
<td>PHIL 290G</td>
<td>Philosophy of Digital Culture</td>
</tr>
<tr>
<td>STEM 251G</td>
<td>Computer Literacy: Communication and Information</td>
</tr>
</tbody>
</table>

Total Hours: 3

Students may meet this requirement in the major and are advised to consult the department of their major program.

Majors approved to meet this requirement through major courses are: College of Arts and Letters – African American and African Studies depending on elective choice, art education, art history, Asian Studies depending on elective choice, cybercrime depending on elective choice, fine arts, geography, history, history teacher preparation, international studies depending on elective choice, political science, and studio art; College of Engineering and Technology - all majors; and College of Health Sciences – dental hygiene and nursing.

II. Ways of Knowing

Courses in the Ways of Knowing develop the students’ critical and analytical thinking abilities. They also develop understanding of the various approaches to knowledge, the contributions various academic disciplines can make to solving specific problems, and the effective use of the English language. Courses in the Ways of Knowing also develop and reinforce written communication skills and include relevant insights into technology. In addition, courses within each Way of Knowing focus on objectives unique to that way of knowing.

A. Human Behavior

The objective of this Way of Knowing is to enable students to learn about human behavior in changing contexts. The courses will address how ideological, scientific, and ethical judgments affect human behavior in Western and non-Western cultures. They will also offer perspectives on the challenges, concerns, and contributions of diverse groups such as women and minorities.

Courses that meet the human behavior Way of Knowing are:

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIBS 110G</td>
<td>Information Literacy for the Digital Age</td>
</tr>
<tr>
<td>STEM 251G</td>
<td>Computer Literacy: Communication and Information</td>
</tr>
</tbody>
</table>

Total Hours: 3

Requirements for Undergraduate Degrees
### B. Human Creativity

This Way of Knowing emphasizes artistic creative endeavor and appreciation and the history of the arts. The courses include field experience with the professional arts community in Hampton Roads as well as with the faculty of relevant departments. The objectives are to foster an appreciation of aesthetic experiences, develop abilities to make reasoned aesthetic judgments and develop an understanding of diverse cultures.

Courses that meet the human creativity Way of Knowing are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 121A</td>
<td>Introduction to the Visual Arts</td>
</tr>
<tr>
<td>ARTS 122A</td>
<td>Visual Communication</td>
</tr>
<tr>
<td>COMM/THEA 270A</td>
<td>Film Appreciation</td>
</tr>
<tr>
<td>DANC 185A</td>
<td>Dance and Its Audience</td>
</tr>
<tr>
<td>MUSC 264A</td>
<td>Music in History and Culture</td>
</tr>
<tr>
<td>THEA 241A</td>
<td>The Theatre Experience</td>
</tr>
</tbody>
</table>

**Total Hours**: 3

### C. Interpreting the Past

The objective of this Way of Knowing is to provide an understanding of historical analysis for non-history majors.

Courses that meet the interpreting the past Way of Knowing are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 100H</td>
<td>Interpreting the World Past Since 1500</td>
</tr>
<tr>
<td>HIST 101H</td>
<td>Interpreting the Asian Past</td>
</tr>
<tr>
<td>HIST 102H</td>
<td>Interpreting the European Past</td>
</tr>
<tr>
<td>HIST 103H</td>
<td>Interpreting the Latin America Past</td>
</tr>
<tr>
<td>HIST 104H</td>
<td>Interpreting the American Past</td>
</tr>
<tr>
<td>HIST 105H</td>
<td>Interpreting the African Past</td>
</tr>
</tbody>
</table>

**Total Hours**: 3

### D. Literature

This Way of Knowing emphasizes the contribution of literature to culture. Through critical reading and analysis, students will develop the ability to make effective use of the English language and informed aesthetic judgments about style and content.

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 112L</td>
<td>Introduction to Literature</td>
</tr>
</tbody>
</table>

**Total Hours**: 3

### E. The Nature of Science

This Way of Knowing requires two semesters of natural science. A student may fulfill the requirement with two non-sequential natural science classes with labs unless a sequence is specifically required for the major. These courses introduce the disciplines and the methods of science and develop the abilities to make reasoned judgments based on scientific considerations.

Courses that meet the nature of science way of knowing are:

Select two of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 105N</td>
<td>Biology for Nonscience Majors I</td>
</tr>
<tr>
<td>BIOL 106N</td>
<td>Biology for Nonscience Majors II</td>
</tr>
<tr>
<td>BIOL 110N</td>
<td>Environmental Sciences</td>
</tr>
<tr>
<td>&amp; BIOL 111N</td>
<td>Environmental Sciences Lab</td>
</tr>
<tr>
<td>BIOL 112N</td>
<td>Environment and Man</td>
</tr>
<tr>
<td>&amp; BIOL 113N</td>
<td>Environment and Man Laboratory</td>
</tr>
<tr>
<td>BIOL 117N</td>
<td>Introduction to Human Biology</td>
</tr>
<tr>
<td>&amp; BIOL 118N</td>
<td>Introduction to Human Biology Lab</td>
</tr>
<tr>
<td>BIOL 121N</td>
<td>General Biology I</td>
</tr>
<tr>
<td>&amp; BIOL 122N</td>
<td>General Biology I Lab</td>
</tr>
<tr>
<td>BIOL 123N</td>
<td>General Biology II</td>
</tr>
<tr>
<td>&amp; BIOL 124N</td>
<td>General Biology II Lab</td>
</tr>
<tr>
<td>CHEM 105N</td>
<td>Introductory Chemistry</td>
</tr>
<tr>
<td>&amp; CHEM 106N</td>
<td>Introductory Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 107N</td>
<td>Introductory Organic and Biochemistry</td>
</tr>
<tr>
<td>&amp; CHEM 108N</td>
<td>Introductory Organic and Biochemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 112N</td>
<td>Foundations of Chemistry I Lecture</td>
</tr>
<tr>
<td>&amp; CHEM 122N</td>
<td>Foundations of Chemistry I Laboratory</td>
</tr>
<tr>
<td>CHEM 123N</td>
<td>Foundations of Chemistry II Lecture</td>
</tr>
<tr>
<td>&amp; CHEM 124N</td>
<td>Foundations of Chemistry II Laboratory</td>
</tr>
<tr>
<td>CHEM 129N</td>
<td>Advanced General Chemistry I and II</td>
</tr>
<tr>
<td>&amp; CHEM 138N</td>
<td>Lecture and Advanced General Chemistry I and II</td>
</tr>
<tr>
<td>OEAS 106N</td>
<td>Introductory Oceanography</td>
</tr>
<tr>
<td>OEAS 108N</td>
<td>Understanding Global Climate Change</td>
</tr>
<tr>
<td>OEAS 110N</td>
<td>Earth Science</td>
</tr>
<tr>
<td>or OEAS 111N</td>
<td>Physical Geology</td>
</tr>
<tr>
<td>OEAS 112N</td>
<td>Historical Geology</td>
</tr>
<tr>
<td>OEAS 250N</td>
<td>Natural Hazards and Disasters</td>
</tr>
<tr>
<td>PHYS 101N</td>
<td>Conceptual Physics</td>
</tr>
<tr>
<td>PHYS 102N</td>
<td>Conceptual Physics</td>
</tr>
<tr>
<td>PHYS 103N</td>
<td>Introductory Astronomy of the Solar System</td>
</tr>
<tr>
<td>PHYS 104N</td>
<td>Introductory Astronomy of Galaxies and Cosmology</td>
</tr>
<tr>
<td>PHYS 111N</td>
<td>Introductory General Physics</td>
</tr>
<tr>
<td>PHYS 112N</td>
<td>Introductory General Physics</td>
</tr>
<tr>
<td>PHYS 231N</td>
<td>University Physics I</td>
</tr>
<tr>
<td>PHYS 232N</td>
<td>University Physics</td>
</tr>
<tr>
<td>PHYS 261N</td>
<td>Advanced University Physics I</td>
</tr>
<tr>
<td>&amp; PHYS 262N</td>
<td>Advanced University Physics II</td>
</tr>
</tbody>
</table>

**Total Hours**: 8

* The combination of BIOL 103, BIOL 240 and BIOL 241 or the combination of BIOL 103, BIOL 250 and BIOL 251 satisfies four credits of the nature of science requirement.

Requirements for Undergraduate Degrees

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 114L</td>
<td>American Writers, American Experiences</td>
</tr>
<tr>
<td>WCS 100L</td>
<td>Introduction to World Literatures and Cultures</td>
</tr>
</tbody>
</table>

**Total Hours**: 3
F. Philosophy and Ethics

Because of the many decisions students will be called upon to make in their personal and professional lives, they will need an appreciation and understanding of philosophical, religious, and ethical foundations to help them to make informed, intelligent choices. Further, as the pace of change and interdependency in the world accelerates, it is important that students be given an ample opportunity to critically examine philosophy and ethical values and to understand how philosophical and ethical issues affect decision-making in professional disciplines.

Courses that meet the philosophy and ethics Way of Knowing are:

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 110P</td>
<td>Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 120P</td>
<td>Logic and Philosophy</td>
<td></td>
</tr>
<tr>
<td>PHIL 230E</td>
<td>Introduction to Ethics</td>
<td></td>
</tr>
<tr>
<td>PHIL 250E</td>
<td>World Religions: Beliefs and Values</td>
<td></td>
</tr>
<tr>
<td>PHIL 303E</td>
<td>Business Ethics</td>
<td></td>
</tr>
<tr>
<td>PHIL 344E</td>
<td>Environmental Ethics</td>
<td></td>
</tr>
<tr>
<td>PHIL 345E</td>
<td>Bioethics</td>
<td></td>
</tr>
<tr>
<td>PHIL 355E</td>
<td>Computer Ethics</td>
<td></td>
</tr>
<tr>
<td>PHIL 442E</td>
<td>Studies in Applied Ethics</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

Students may meet this requirement in the major and are advised to consult the department of their major program. Majors approved to meet this requirement through major courses are: College of Arts and Letters – interdisciplinary studies majors in cybercrime, cybersecurity, leadership, professional writing and work and professional studies depending on elective choice; College of Education – sport management; College of Engineering and Technology – all majors if ENMA 480 is completed; and College of Health Sciences – dental hygiene, dental hygiene degree completion, health sciences health services administration major, and health sciences public health major.

G. Impact of Technology

It is important for students to understand not only how a technology functions, but also how technology affects society.

Courses in the impact of technology Way of Knowing are intended to develop students’ abilities to make reasoned judgments about the impact of technological development upon world cultures and the environment as well as upon individuals and societies.

Courses that meet the impact of technology Way of Knowing are:

Select one of the following courses

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 470T</td>
<td>Diseases that Changed our World</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 171T</td>
<td>Influence of Polymers on Society</td>
<td></td>
</tr>
<tr>
<td>CHEM 173T</td>
<td>Nutritional Biochemistry</td>
<td></td>
</tr>
<tr>
<td>CHEM 339T</td>
<td>The Chemistry of the Environment</td>
<td></td>
</tr>
<tr>
<td>CHEM 343T</td>
<td>Science and Technology in Art</td>
<td></td>
</tr>
<tr>
<td>COMM 372T</td>
<td>Introduction to New Media Technologies</td>
<td></td>
</tr>
<tr>
<td>CS 300T</td>
<td>Computers in Society</td>
<td></td>
</tr>
<tr>
<td>DNTH 440T</td>
<td>Telehealthcare Technology</td>
<td></td>
</tr>
<tr>
<td>EET 370T</td>
<td>Energy and the Environment</td>
<td></td>
</tr>
<tr>
<td>ENGL/IDS 307T</td>
<td>Digital Writing</td>
<td></td>
</tr>
<tr>
<td>GEOG 306T</td>
<td>Hazards: Natural and Technological</td>
<td></td>
</tr>
<tr>
<td>HIST 300T</td>
<td>The History of Sex and Sexual and Reproductive Technologies</td>
<td></td>
</tr>
<tr>
<td>HIST 304T</td>
<td>History of Medicine, Disease, and Health Technology</td>
<td></td>
</tr>
<tr>
<td>HIST 314T</td>
<td>Towers, Tanks and Time: Technology on the Eve of WWI</td>
<td></td>
</tr>
<tr>
<td>HIST 388T</td>
<td>Discovering Earth’s History</td>
<td></td>
</tr>
<tr>
<td>HIST 389T</td>
<td>Technology and Civilization</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

The impact of technology way of knowing can also be met by major requirements. Students are advised to consult the department of their major program. Majors approved to meet this requirement through major courses are: College of Arts and Letters – communication depending on elective choice, dance education, English teacher preparation, fine arts and studio arts depending on elective choice, world languages and cultures teacher preparation, geography depending on elective choice, history depending on elective choice, history teacher preparation, interdisciplinary studies majors in individualized integrative studies, cybercrime, and professional writing, interdisciplinary studies teacher preparation programs, interdisciplinary studies majors in cybersecurity, cyber operations, leadership, and work and professional studies depending on elective choice, all music majors; theatre education, and women’s studies. College of Business—all majors except the B.A. in economics; College of Education—exercise science, health and physical education teacher preparation, all majors in occupational and technical studies; College of Engineering and Technology—all majors except civil engineering technology and modeling and simulation engineering; College of Health Sciences—health sciences health services administration major and health sciences public health major.

NOTE: For General Education requirements that can be met through the major (information literacy and research, impact of technology, oral communication, and philosophy and ethics), students who complete the required courses in their major that meet these requirements and then change to a major that does not meet the requirement through courses in the major will have met the requirement for the new major.

Honors Courses that Meet General Education Requirements*

**Skills**

**Written Communication**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 126C</td>
<td>Honors: English Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

**Oral Communication**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 126R</td>
<td>Honors: Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Information Literacy and Research**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 126G</td>
<td>Honors: Introduction to Information Literacy and Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Ways of Knowing**

**Human Behavior**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 226S</td>
<td>Honors: Introduction to Human Communication</td>
<td>3</td>
</tr>
<tr>
<td>CRJS 226S</td>
<td>Honors: Introduction to Criminology</td>
<td>3</td>
</tr>
<tr>
<td>ECON 226S</td>
<td>Honors: Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 227S</td>
<td>Honors: Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 126S</td>
<td>Honors: Cultural Geography</td>
<td>3</td>
</tr>
<tr>
<td>POLS 126S</td>
<td>Honors: Introduction to American Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLS 127S</td>
<td>Honors: Introduction to International Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 226S</td>
<td>Honors: Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 226S</td>
<td>Honors: Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>WMST 226S</td>
<td>Honors: Women in A Changing World</td>
<td>3</td>
</tr>
</tbody>
</table>

**Human Creativity**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 386T/SCI 302T</td>
<td>The Evolution of Modern Science</td>
<td>3</td>
</tr>
<tr>
<td>IT 360T</td>
<td>Principles of Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 335T</td>
<td>Music Technology Survey</td>
<td>3</td>
</tr>
<tr>
<td>OEAS 220T</td>
<td>Introduction to Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 383T</td>
<td>Technology: Its Nature and Significance</td>
<td>3</td>
</tr>
<tr>
<td>POLS 350T</td>
<td>Technology and War</td>
<td>3</td>
</tr>
<tr>
<td>POLS 458T</td>
<td>Weapons of Mass Destruction in Global Security</td>
<td>3</td>
</tr>
<tr>
<td>STEM 110T</td>
<td>Technology and Your World</td>
<td>3</td>
</tr>
<tr>
<td>STEM 370T</td>
<td>Technology and Society</td>
<td>3</td>
</tr>
<tr>
<td>WMST 390T</td>
<td>Women and Technology Worldwide</td>
<td>3</td>
</tr>
</tbody>
</table>
ARTS 126A  Honors: Art as Experience  3
ARTH 127A  Honors: Introduction to the Visual Arts  3
COMM 227A  Honors: Film Appreciation  3
MUSIC 126A  Honors: Music in History and Culture  3
THEA 227A  Honors: Film Appreciation  3

Interpreting the Past
HIST 126H  Honors: Interpreting the American Past  3
HIST 127H  Honors: Interpreting the European Past  3

Literature
ENGL 127L  Honors: Introduction to Literature  3

The Nature of Science
BIOL 136N  Honors General Biology I  4 & BIOL 137N  and Honors General Biology I Lab  3
& BIOL 138N  Honors General Biology II  4 & BIOL 139N  and Honors General Biology II Lab  3
OEAS 126N  Honors: Introductory Oceanography  4
PHYS 126N  Honors: Introductory Astronomy  8
PHYS 127N  and Honors: Introductory Astronomy  8
PHYS 226N  Honors: University Physics I  8 & PHYS 227N  and Honors: University Physics II  8

Philosophy and Ethics
PHIL 126P  Honors: Introduction to Philosophy  3
PHIL 227E  Honors: World Religions: Beliefs and Values  3
PHIL 228E  Honors: Introduction to Ethics  3

*  Courses listed are open only to students in the Honors College.

Upper-Division Requirements (junior and senior years)

Writing Intensive Course in the Major
All students are required to demonstrate written communication skills in the major by taking a Writing Intensive (W) course at the upper-division level. All undergraduate students must complete their W course in the major (3 credits) at Old Dominion University and earn a grade of C (2.0) or better in order to earn a baccalaureate degree.

Criteria for Writing Intensive courses include:

1. Students will demonstrate, in a series of individual (not group) assignments, their mastery of the subject in a discipline, through the writing of formal documents.
2. For each writing assignment, the instructor will provide feedback to the student, evaluating content and writing style (organization, development, logic, coherence and mechanics).
3. Types of documents for writing assignments include essays, laboratory reports, project reports, critiques of performances, research proposals, case studies, journal article reviews, book reviews, creative writing, written interviews, and other forms appropriate to a particular discipline.
4. A maximum of 10% total of identified graded writing in the form of essays for tests, quizzes, and/or a mid-semester examination (not a final exam) may be included. It is to be evaluated for both content and writing style as indicated in (b) above.
5. Graded writing requirements comprise at least 51% of the overall course grade.

Upper-Division Studies Outside the Major
Students are required to complete Option A, B, C or D to meet the upper-division general education requirement. In addition to the completion of courses in the area of the major field, a candidate for a baccalaureate degree may select Option A, any University-approved minor, second degree or second major. The minor may be chosen to support the major, to offer greater job opportunities to the student on graduation, or to provide academic recognition of study in a second disciplinary area. A baccalaureate degree candidate may also choose an integrative disciplinary experience through the selection of Option B, an Interdisciplinary Minor; Option C, International Business and Regional Courses or an approved Certification Program such as Teaching Licensure; or Option D, six hours of elective upper-division course work from outside of and not required by the student’s major and college.

Option A: Any University-approved minor* (minimum of 12 hours determined by the department), second degree, or second major

Students who complete the course requirements for the minor, but who do not attain a 2.00 grade point average in the minor, may request that the course work be approved to meet the upper-division general education requirement. The request may be initiated through the student’s advisor and the associate dean of their college and submitted to the assistant vice president for undergraduate studies in the Office of Academic Affairs. Students whose requests are approved will meet the upper-division requirement, but they will not receive credit for the minor.

* Bachelor of Science in Business Administration majors pursuing a minor or second major in the Strome College of Business other than Economics, Military Leadership (minor only) or Public Service (minor only) must also take six hours of 200-400 level courses outside the College, or in economics, or in military leadership or in study abroad. Students majoring in Economics who pursue a minor or second major in the Strome College of Business fulfill upper-division general education requirements and do not need to take the six hours of 200-400 level courses outside the College.

Option B: Any University-approved interdisciplinary minor (specifically 12 hours, three of which may be in the major)

Three credit hours in the interdisciplinary minor may be in the major if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor. Interdisciplinary minors require 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. Course substitutions may be approved by the interdisciplinary minor coordinator.

Approved interdisciplinary minors are as follows.

Administrative Leadership and Ethics for Professional Roles Interdisciplinary Minor
James Van Dore, Department of Philosophy and Religious Studies, Coordinator

The intent of the Administrative Leadership and Ethics for Professional Roles interdisciplinary minor is to develop management-related skills. The minor is designed to improve the student’s professionalism through an understanding of applied ethics, effective communication, processes in organizations, applied psychology, and legal issues in the workplace. An appreciation for the qualities of leadership, the functions of administration, and a sensitivity for ethical decision making will allow the student to apply for a wider variety of positions.

Course options are as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHP 400</td>
<td>Ethics in Health Administration</td>
<td>3</td>
</tr>
<tr>
<td>CHP 450</td>
<td>Public and Community Health</td>
<td>3</td>
</tr>
<tr>
<td>CHP 480</td>
<td>Health Ethics and the Law</td>
<td>3</td>
</tr>
<tr>
<td>COMM 351</td>
<td>Interpersonal Communication in</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Organizations</td>
<td></td>
</tr>
<tr>
<td>DNTH 416</td>
<td>Administrative Leadership and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Professional Development</td>
<td></td>
</tr>
<tr>
<td>ENGL 486</td>
<td>Media Law and Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>

Requirements for Undergraduate Degrees  6
Course requirements are as follows:

- Leadership and Management for Health Professionals
- Management in the Clinical Setting
- Contemporary Organizations and Management
- Employee Relations Problems and Practices
- Ethics and Social Issues in Administration
- Administration and Management in Nuclear Medicine Technology
- Nursing in the Health Care System: Leadership
- Ethics, Governance and Accountability in Public Service
- Business Ethics
- Environmental Ethics
- Computer Ethics
- Bioethics
- Environmental Ethics
- Business Ethics
- Public Service

Students have the option to substitute one course from those that satisfy their major requirements for one of the minor electives with approval of the minor coordinator.

Students interested in medical simulation are encouraged to select their electives from ECE 462, MAE 440 and MATH 316.

**Biomedical Engineering Interdisciplinary Minor**

Christian Zemlin, Department of Electrical and Computer Engineering, Coordinator

This interdisciplinary minor is for students who would like to learn about processes encountered in biomedical engineering innovation and enhance their ability to integrate knowledge from different disciplines with principles used in biomedical engineering. The minor offers an opportunity for students to be recognized for study in this growing multidisciplinary field and to enhance competitiveness for job opportunities upon graduation.

Course requirements are as follows:

- Biomedical Engineering I: Principles
- Biomedical Engineering II: Applications

Select two elective courses from the following:

- Comparative Biomechanics
- Frontiers in Nanoscience and Nanotechnology
- Advanced Human Physiology
- Topics (approved by minor advisor)
- Intermediate Biochemistry
- Anatomical Kinesiology
- Biomechanics
- Introduction to Bioelectronics
- Introduction to Medical Image Analysis (MIA)
- Interprofessional Study Abroad on Global Health
- Mechanics of Fluids
- Introduction to Finite Element Analysis
- Introductory Linear Algebra
- Clinical Instrumentation and Electronics
- Contemporary Organizations and Management
- Analysis for Modeling and Simulation
- Fundamental Concepts in Nuclear Medicine Technology
- Global Health Perspectives

The minor will facilitate the development of the next generation of conservation-related service-learning, internships and leadership programs. A unique aspect of this interdisciplinary minor frame the study of children within the larger framework of human rights, more specifically, children’s rights and status as a group within society in social science research and theory, literature, the arts, humanities, education, counseling, law and public policy.

Course options are as follows:

- Children’s Communication Theory and Research
- Violence in the World of Children
- Children’s Rights and the Law
- Interventions and Advocacy with Children
- Child Psychology
- Sociology of Child Welfare
- Practical Applications in the World of Children

The interdisciplinary minor in Conservation Leadership is offered by Old Dominion University in collaboration with the U.S. Fish and Wildlife Service (USFWS) as part of a long-term, sustainable program of conservation-related service-learning, internships and leadership programs. The minor will facilitate the development of the next generation of professionals who can address conservation issues and challenges posed by a changing climate and sea level rise. A unique aspect of this interdisciplinary minor is the requirement to take one course that is designated as a service-learning (SL) course in which the student will work at a USFWS (or related) facility.

The interdisciplinary minor in Conservation Leadership requires 15 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. There are two required, core courses and a required internship. The remaining six elective credits must be chosen from different disciplines, and three of those credits must be a service-learning course. Three credit hours in the interdisciplinary minor may be in the major if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor. Course substitutions may be approved by the interdisciplinary minor coordinator.

Course requirements and options are as follows:

- Introduction to Mitigation and Adaptation Studies
- Sustainability Leadership
- Internship in Interdisciplinary Studies
- Global Change Biology
- Field Ethnobotany
- Conservation Biology
- The Chemistry of the Environment
**Cybersecurity Interdisciplinary Minor**

Tamer Nadeem, Department of Computer Science, Coordinator (tnadeem@odu.edu)

This interdisciplinary minor in cybersecurity is focused on the technological, structural, social, and legal frameworks used to secure computer networks and software. The study of cybersecurity combines multiple fields including computer science, engineering, information technology, criminal justice, and philosophy, to name a few. In an effort to promote the security of computer networks, software, and cyber information, an interdisciplinary understanding about technological, legal, philosophical, and structural aspects of cyber crime is needed. This minor will provide students from different majors the knowledge they need to prevent or respond to cyber incidents they are likely to encounter in their careers.

Course options are as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 462</td>
<td>Cybersecurity Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>or ECE/ENMA/MSIM 470</td>
<td>Foundations of Cyber Security</td>
<td></td>
</tr>
<tr>
<td>CS 463</td>
<td>Cryptography for Cybersecurity</td>
<td>3</td>
</tr>
<tr>
<td>CS 464</td>
<td>Networked Systems Security</td>
<td>3</td>
</tr>
<tr>
<td>or ECE/ENMA/MSIM 411</td>
<td>Networked System Security</td>
<td></td>
</tr>
<tr>
<td>CS 465</td>
<td>Information Assurance</td>
<td>3</td>
</tr>
<tr>
<td>CRJS 405</td>
<td>Cybercrime and Cybersecurity</td>
<td>3</td>
</tr>
<tr>
<td>CYSE 300</td>
<td>Introduction to Cybersecurity</td>
<td>3</td>
</tr>
<tr>
<td>CYSE 301</td>
<td>Cybersecurity Techniques and Operations</td>
<td>3</td>
</tr>
<tr>
<td>CYSE 406</td>
<td>Cyber Law</td>
<td>3</td>
</tr>
<tr>
<td>CYSE 407</td>
<td>Digital Forensics</td>
<td>3</td>
</tr>
<tr>
<td>ECE 416</td>
<td>Cyber Defense Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>or ENMA/MSIM 416</td>
<td>Cyber Defense Fundamentals</td>
<td></td>
</tr>
<tr>
<td>ECE 417</td>
<td>Secure and Trusted Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>or ENMA/MSIM 417</td>
<td>Secure and Trusted Operating Systems</td>
<td></td>
</tr>
<tr>
<td>ECE 419</td>
<td>Cyber Physical System Security</td>
<td>3</td>
</tr>
<tr>
<td>or ENMA/MSIM 419</td>
<td>Cyber Physical Systems Security</td>
<td></td>
</tr>
<tr>
<td>FIN 443</td>
<td>Enterprise Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>IT 416</td>
<td>Network Server Configuration and Administration</td>
<td>3</td>
</tr>
<tr>
<td>IT 417</td>
<td>Management of Information Security</td>
<td>3</td>
</tr>
<tr>
<td>IT 418</td>
<td>Information Assurance</td>
<td>3</td>
</tr>
<tr>
<td>IT 419</td>
<td>Enterprise Cyber Defense</td>
<td>3</td>
</tr>
<tr>
<td>IT 461</td>
<td>Implementing Internet Applications</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 355E</td>
<td>Computer Ethics</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Energy Engineering Interdisciplinary Minor**

Sandeep Kumar, Department of Civil and Environmental Engineering, Coordinator

This interdisciplinary minor is for students who would like to learn about energy engineering fundamentals, socio-environmental impacts of energy systems, and novel energy engineering technologies. The minor will enhance students' abilities to integrate knowledge from different disciplines with concepts used in energy engineering and offer students the opportunity to be recognized for study in this growing interdisciplinary field.

The interdisciplinary minor requires 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. The course requirements are as follows:

Four courses chosen from:

- CET 355 Sustainable Building Practices
- CEE 459 Biofuels Engineering
- ECE 303 Introduction to Electrical Power

Requirements for Undergraduate Degrees
Course options are as follows:

- **ECE 403** Power Electronics
- **ECE 471** Introduction to Solar Cells
- **ECON 447W** Natural Resource and Environmental Economics
- **EET 340** Transmission Networks
- **EET 370T** Energy and the Environment
- **EET 485** Electrical Power Systems
- **ENG 411** Energy Management and Policy
- **ENGR 412** Fundamentals of Energy Conversion and Transmission
- **ENMA 301** Introduction to Engineering Management
- **ENMA 302** Mechanical Engineering Systems Theory and Design
- **MAE 413** Energy Conversion
- **MAE 416** Introduction to Solar Energy Engineering
- **MAE 430** Solar Thermal Engineering
- **MET 300** Thermodynamics
- **MET 450** Energy Systems
- **MET 471** Nuclear Systems I
- **OEAS 415** Waves and Tides
- **PHYS 415** Introduction to Nuclear and Particle Physics

One course relevant to energy engineering from the student’s major can also be used as a minor course with the approval of the minor coordinator.

For completion of the minor, students must have a minimum overall grade point average of 2.00 in all courses required for the minor exclusive of prerequisites. At least six hours of the required 12 must be taken through courses offered by Old Dominion University.

### Environmental Issues and Management Interdisciplinary Minor

Gary Burgess, Department of Community and Environmental Health, Coordinator

Continuing environmental degradation is a worldwide problem threatening the quality of life and its viability. The problem can only be understood and addressed by drawing upon the resources of multidisciplinary approaches. The multidisciplinary perspective center of this minor focuses on the human dimensions of the human-environment equation and includes geographical and ecological approaches, scientific and technological methodologies, planning and public policy issues, and ethical, political, economic, and legal considerations.

Course options are as follows:

- **CEE 350** Environmental Pollution and Control 3
- **CEE 458** Sustainable Development 3
- **ECON 435** Health Economics: A Global Perspective 3
- **ECON 447W** Natural Resource and Environmental Economics 3
- **ENVR 402W** Environmental Health Administration and Law 3
- **ENVR 301** Principles of Environmental Health Science 3
- **ENVR 420** Communicable Diseases 3
- **ENVR 421** Food Safety 3
- **ENVR 422** Water and Wastewater Technology 3
- **GEOG 305** World Resources 3
- **GEOG 306T** Hazards: Natural and Technological 3
- **GEOG 400W** Seminar in Geography 3
- **GEOG 420** Marine Geography 3
- **GEOG 422W** Coastal Geography 3
- **OEAS 302** Environmental Geology 3
- **OEAS 310** Global Earth Systems 3
- **PAS 300** Foundations of Public Service 3
- **PHIL 344E** Environmental Ethics 3
- **PHIL 345E** Bioethics 3
- **POLS 300** Introduction to Public Policy 3
- **POLS 335** Environmental Politics 3
- **POLS 401** Global Environmental Policy 3
- **RTS 405** Outdoor Recreation 3
- **SOC 309** Population and Society 3
- **SOC 320** Social Inequality 3
- **SOC 325** Social Welfare 3
- **SOC 440** Sociology of Health and Wellbeing 3
- **SOC/CRJS 444** Community Justice 3

### Health and Wellness Interdisciplinary Minor

Laura Hill, Department of Human Movement Sciences, Coordinator

The Health and Wellness interdisciplinary minor explores personal involvement in and commitment to health and wellness and the factors that influence the health status of individuals and society. This interdisciplinary minor also fosters an appreciation for personal responsibility for health and strategies to enhance and preserve the individual’s and the public’s health. Societal health and the factors that impact on the health and wellness of a community and the individual’s role in health policy are examined. Students gain an awareness of the cultural, psychological, sociological and ethical issues affecting and effected by the health and wellness of individuals and the society in which they live.

Course options are as follows:

- **CHP 360** Introduction to Global Health 3
- **CHP 400** Ethics in Health Administration 3
- **CHP 420** Foundations of Gerontology 3
- **CHP 425** Health Aspects of Aging 3
- **CHP 456** Substance Use and Abuse 3
- **CHP 465** Policy and Politics of Health 3
- **CHP 470** Death, Dying and Survivorship 3
- **CRJS 401** Understanding Violence 3
- **CRJS/SOC 421** Deviant Behavior 3
- **CRJS/SOC 427** Violence Against Women 3
- **CRJS/SOC 441** Drugs and Society 3
- **EXSC 403** Lifetime Fitness and Wellness 3
- **EXSC 408** Nutrition for Fitness and Sport 3
- **EXSC 415** Exercise Testing for Normal and Special Populations 4
- **HLSC 405** Interprofessional Study Abroad on Global Health 1-3
- **HPE 317** Human Growth & Motor Development 3
- **HPE 400** Management Skills for Teaching Health and Physical Education 3
- **HPE 402** Methods and Materials in Health Education 3
- **HPE 409** Physiology of Exercise 3
- **HPE 430** Nutrition and Fitness Education 3
- **HMSV 341** Introduction to Human Services 3
- **HMSV 491** Family Guidance 3
- **PHIL 345E** Bioethics 3
- **PSYC 306** Health Psychology 3
- **PSYC 325** Drugs and Behavior 3
- **PSYC 351** Child Psychology 3
- **PSYC 352** Cognitive Development During Childhood 3
- **PSYC 353** The Psychology of Adulthood and Aging 3
- **PSYC 363** Psychology of Sex 3
- **PSYC 405** Abnormal Psychology 3
- **PSYC 408** Theories of Personality 3
problems and crucial issues that emerge from urban environments. Students
This interdisciplinary minor encourages an interdisciplinary approach to the
Christopher B. Colburn, Department of Economics, Coordinator

Course options are as follows:

PSYC 410 Human Cognition 3
PSYC 420 Cross-Cultural Psychology 3
PSYC 424 Physiological Psychology 3
PSYC 431 Community Psychology 3
PSYC 460 Psychology of African Americans 3
PSYC 461 Drug Abuse and Dependence 3
SOC 440 Sociology of Health and Wellbeing 3
SPED 313 Fundamentals of Human Growth and Development: Birth through Adolescence 3

The Impact of Technology Interdisciplinary Minor
Philip A. Reed, Department of STEM Education and Professional Studies, Coordinator

This interdisciplinary minor develops a broader understanding of technology and its impact on individuals, societies, and the environment. It provides the social context and the historical and philosophical backgrounds needed by informed students to evaluate technology and its impacts. The minor equips students with skills to make better personal decisions about technology and more appropriate choices for their futures.

Course options are as follows:

CHP 360 Introduction to Global Health 3
COMM 340 Media and Popular Culture 3
COMM 372T Introduction to New Media Technologies 3
COMM 400W Intercultural Communication 3
COMM 401 Communication Theory 3
COMM 448 Transnational Media Systems 3
CS 300T Computers in Society 3
CS 312 Internet Concepts 3
ECON 402 Transportation Economics 3
ECON 454W Economic Development 3
ENGL 380 Reporting and News Writing I 3
ENGL 382 Reporting News for Television and Digital Media 3
ENGL 480 Investigative Reporting Techniques 3
ENVH 301 Principles of Environmental Health Science 3
ENVH 402W Environmental Health Administration and Law 3
GEOG 305 World Resources 3
GEOG 306T Hazards: Natural and Technological 3
HIST 304T History of Medicine, Disease, and Health Technology 3
HIST 389T Technology and Civilization 3
HIST 386T/SCI 302T The Evolution of Modern Science 3
IT 360T Principles of Information Technology 3
MUSC 335T Music Technology Survey 3
OPMT 303 Operations Management 3
PHIL 355E Computer Ethics 3
PHIL 383T Technology: Its Nature and Significance 3
POLI 350T Technology and War 3
SOC 352 War and Peace 3
STEM 370T Technology and Society 3
STEM 382 Industrial Design 3
STEM 417 Exploring Technology and Modern Industry 3
WMST 390T Women and Technology Worldwide 3

The Urban Community Interdisciplinary Minor
Christopher B. Colburn, Department of Economics, Coordinator

This interdisciplinary minor encourages an interdisciplinary approach to the problems and crucial issues that emerge from urban environments. Students gain an understanding of the issues associated with the convergence of diverse populations in urban locations and acquire an appreciation of the complexities of the interlocking and contingent nature of urban problems. This will be accomplished through an examination of the topical areas of common space, diversity, urban services, disorder, and work.

Course options are as follows:

ARTH 435W Modern Architecture 3
CHP 415W Critical Issues in Public/Community Health Administration 3
COMM 467 Media, Politics and Civic Engagement 3
CRJS 323 Police in American Society 3
CRJS 325 Women and Crime 3
CRJS 355 Crime and the Community 3
CRJS 441 Drugs and Society 3
ECON 402 Transportation Economics 3
ECON 445W Urban Economics 3
GEOG 310 Geography of the City 3
GEOG 411 Urban and Regional Planning 3
GEOG 412 Cities of the World 3
PSYC 431 Community Psychology 3
PRTS 433 Camp Administration 3
SOC/CRJS 444 Community Justice 3

World Cultures: Values and Visions Interdisciplinary Minor
Lee Slater, Department of World Languages and Cultures, Coordinator

The World Cultures: Values and Vision interdisciplinary minor requires 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in ALL courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

This interdisciplinary minor develops an understanding of human behavior in different cultures. In order to interpret information from other countries and ethnic groups, students need to learn that certain common notions such as perceptions of personhood, the organization of time and space, and the appropriate organization and behavior of social groups vary from country to country. This minor will explore different cultural perspectives and value systems. Students should emerge with a more sophisticated understanding of their own and others’ cultures.

Course options are as follows:

ANTR 304 Digging Up the Past 3
ANTR 305 North American Archaeology 3
ANTR 320 The Sexes in Cross-Cultural Perspective 3
COMM 400W Intercultural Communication 3
ENGL 371W Communication Across Cultures 3
FR 320 Contemporary France through the Media 3
FR 438 Studies in Twentieth-Century French Literature 3
FR 469 A History of French Cinema 3
GEOG 451 Europe 3
GEOG 452 Africa 3
GEOG 453 Asia 3
GEOG 455 The Middle East 3
GEOG 456 Geography of Southeast Asia 3
IT 425 Information Systems for International Business 3
Option C: International Business and Regional Courses or an approved Certification Program such as Teaching Licensure

The international business and regional courses option requires ECON 450: International Economics and six hours of approved courses from a selected regional focus described below.

**Asian Focus**
Select two of the following:
- GEOG 453: Asia
- HIST 332: South Asia Since Independence
- HIST 336: The Emergence of New China
- HIST 439: Politics and Society in East Asia Since 1945
- POLS 338W: Politics of East Asia
- POLS 437: International Relations in East Asia

**European Focus**
Select two of the following:
- GEOG 451: Europe
- HIST 316: Cold War in History
- POLS 314: European Politics
- POLS 332W: Europe in World Affairs
- WCS/FR/GER 410: Berlin-Paris: Crucibles of European Ideas

**Latin American Focus**
Select two of the following:
- GEOG 454W: Latin America
- HIST 373: U.S.-Latin American Relations
- HIST 470: Democracy and Development in Modern Latin America
- HIST 371: Modern Mexico
- HIST 372: Central America and the Caribbean Since 1800
- POLS 337: Latin American Politics
- SPAN 321: Latin American Culture and Civilization

For more information contact Bruce M. Seifert, Department of Finance.

Option C can also be met through an approved certification program such as teaching licensure. The professional education requirements specified for teaching licensure programs meet this option.

**Option D: Upper-Division Course Work from Another College Outside of and not Required by the Major**

Six hours of elective upper-division course work from outside of and not required by the student’s major and college. Transfer courses may be used to meet this requirement but must be from outside of and not required by the student's major and college. Study abroad courses, Military Science and Leadership courses (MSL) and Naval Science courses (NAVS) may be used to meet the Option D requirement for all students, regardless of the student’s major and college. Upper-division courses elected to meet the Philosophy and Ethics and Impact of Technology Ways of Knowing areas may also meet the requirement but they must be outside the college and not required by the major.

In the College of Arts & Letters, courses are divided into two components: (1) Arts & Humanities and (2) Social Sciences.

Arts and Letters majors will be permitted to take upper-division courses in their non-major component for this requirement or courses from another college.

By definition the Arts and Humanities component will include: Art, Dance, English, History, Music, Philosophy, Theatre, and World Languages and Cultures. The Social Sciences component will include: African-American Studies, American Studies, Asian Studies, Anthropology, Communication, Criminal Justice, Geography, International Studies, Political Science, Sociology, and Women’s Studies.

Students must satisfy all prerequisites before enrolling in any upper-division course.

**Second Major**

The University permits an undergraduate student to pursue a second major. A student pursuing two majors must meet all the degree requirements of one major and at least the departmental requirements of the other. (Most professional degree majors require completion of both the departmental/ school and the college requirements.) Requirements for both majors must be completed prior to receiving the baccalaureate degree. The student will receive one baccalaureate degree. Both majors will appear on the transcript. The degree awarded will be determined by the major to which University and college requirements are applied. Prior to undertaking the second major, the student must have the program approved by the appropriate chief departmental advisor/chair and dean.

Completion of a second major will meet the upper-division General Education Requirements. Students pursuing two majors in the Strome College of Business may not use the second business major to satisfy the upper-division General Education requirement unless one of the majors is economics.

Students wishing to earn a second degree rather than a second major should see the “Second Baccalaureate Degree” section of the catalog.

**Second Baccalaureate Degree**

The University will permit a student to acquire a second baccalaureate degree, provided that he or she:

1. Pursues a different course of study.
2. Meets all University, college, school, and departmental requirements (credits earned for the first degree may be applied, if suitable, toward the second degree).
3. Completes a minimum of 30 semester hours at Old Dominion University that are beyond the requirements for the first degree.

A minimum of 150 credit hours is required for students earning two baccalaureate degrees from Old Dominion University. If the degrees are to be awarded simultaneously, an application for graduation and degree certification must be submitted through the respective advisors for each degree program.
Prior to undertaking the second degree, the Office of Admissions will conduct an evaluation of all prior university-level coursework the student has completed. Those who meet the admissions standards of the University will be admitted; however, this does not guarantee admission into specific degree programs where separate applications are required. The University, as a general rule, will not permit a student to pursue more than two baccalaureate degrees.

Second degree students are not required to take the Writing Sample Placement Test (WSPT) and are considered to have fulfilled the lower-division writing requirement and University General Education Requirements with the exception of the writing intensive (W) course in the major. Second degree students must complete the writing intensive course in the major at Old Dominion University and must earn a grade of C (2.0) or better. Students receiving two degrees from Old Dominion University must complete the writing intensive course in both majors and earn a grade of C or better in both courses.

All second degree students must meet the college/departmental requirements for both degrees even if some of these requirements are also general education courses.

Students who received their first degree from Old Dominion University should be aware that grades in all undergraduate courses (for both the first and the second degree) will be included in the cumulative grade point average.

Students wishing to earn a second major rather than a second degree should see the “Second Major” section of the catalog for information.

Minors

In addition to the completion of courses in the area of the major field, a candidate for a baccalaureate degree may complete a minor. The completion of a minor is optional. The minor may be chosen to support the major, to offer greater job opportunities to the student on graduation, or to provide recognition of study in a second academic area. Completion of a University-approved minor will meet the upper-division General Education Requirements. Students who complete the course requirements for the minor, but who do not attain a 2.00 grade point average in the minor, may request that the course work be approved to meet the upper-division general education requirement. The request may be initiated through the student’s advisor and the associate dean of their college and submitted to the assistant vice president for undergraduate studies in the Office of Academic Affairs. Students whose requests are approved will meet the upper-division requirement, but they will not receive credit for the minor.

For completion of a minor, an undergraduate student must have the following:

1. A minimum of 12 credit hours in a specified minor, normally at the 300 and 400 upper-level.
2. An overall grade point average of 2.0 or above in all courses specified as a requirement in the minor exclusive of prerequisite courses. All 300-, 400-, and approved 200-level courses designated for the minor and taken by the student will be calculated in the student’s grade point average for the minor. For example, if the minor requires four courses at the 300- and 400-level and the student completes five courses, all five courses will be included in the calculation of the grade point average for the minor.
3. Six credit hours in the minor from Old Dominion University. No course that is introductory or foundational, or that meets a lower level General Education requirement, may be included, although such courses may be prerequisites for courses in the minor.

Minors may be proposed by departments and programs and must be approved by the appropriate college committee and dean, by Faculty Senate Committee A and by the provost and vice president for academic affairs. Interdisciplinary minors must be reviewed by all colleges and departments involved prior to submission to Committee A of the Faculty Senate. Three credit hours in the interdisciplinary minor may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

Interdisciplinary minors require 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline.

Specific minor requirements may be found in the section on Colleges, Schools and Departments of Instruction in this catalog.

Procedures

Students who wish to pursue a minor must declare the minor with and be advised by the department offering the minor, their Student Success Advisor (for online students), or the distance learning representative. Students completing a minor should present the minor for certification when submitting applications for graduation.

Following are approved academic minors:

Arts and Letters

- African-American Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/africanamericanstudies/#minorinafricanamericanstudies)
- American Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/americanstudies/#minorinamericanstudies)
- Art History (http://catalog.odu.edu/undergraduate/collegeofartsletters/art/#minorinarthistory)
- Asian Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/asiastudies/#minorinasianstudies)
- Chinese Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/chinesestudies/#minorinchinesestudies)
- Communication (http://catalog.odu.edu/undergraduate/collegeofartsletters/communicationandtheatrearts/#minorincommunication)
- Criminal Justice (http://catalog.odu.edu/undergraduate/collegeofartsletters/criminaljustice/#minorincriminaljustice)
- Dance (http://catalog.odu.edu/undergraduate/collegeofartsletters/dance/#minorindance)
- English (http://catalog.odu.edu/undergraduate/collegeofartsletters/english/#minorinenglish)
- European Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/europeanstudies/#minorineuropeanstudies)
- Film and Video Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/filmandvideostudies/#minorinfilmstud)
- Geography (http://catalog.odu.edu/undergraduate/collegeofartsletters/geography/#minoringeography)
- History (http://catalog.odu.edu/undergraduate/collegeofartsletters/history/#minorinhistory)
- Holocaust and Genocide Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/holocaustandgenocide/#minorinholocaustandgenocide)
- International Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/internationalstudies/#minorinininternational)
- Japanese Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/japanese/#minorinjapanese)
- Jewish Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/jewish/#minorinjewish)
- Latin American Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/latinamericanstudies/#minorinlatinamericanstudies)
- Middle Eastern Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/middleeasternstudies/#minorinmiddleeasternstudies)
- Music Composition (http://catalog.odu.edu/undergraduate/collegeofartsletters/music/#minorinmusic)
- Music History (http://catalog.odu.edu/undergraduate/collegeofartsletters/music/#minorinmusic)

Requirements for Undergraduate Degrees 12
• Music Performance (http://catalog.odu.edu/undergraduate/collegeofartsletters/music/#minorsinmusic)
• Philosophy (http://catalog.odu.edu/undergraduate/collegeofartsletters/philosophyandreligiousstudies/#minorsinphilosophyandreligiousstudies)
• Philosophy—Applied Ethics Specialization (http://catalog.odu.edu/undergraduate/collegeofartsletters/philosophyandreligiousstudies/#minorsinphilosophyandreligiousstudies)
• Philosophy—Religious Studies Specialization (http://catalog.odu.edu/undergraduate/collegeofartsletters/philosophyandreligiousstudies/#minorsinphilosophyandreligiousstudies)
• Philosophy—Political and Legal Studies Specialization (http://catalog.odu.edu/undergraduate/collegeofartsletters/philosophyandreligiousstudies/#minorsinphilosophyandreligiousstudies)
• Political Science (http://catalog.odu.edu/undergraduate/collegeofartsletters/politicalscienceandgeography/#minorsinpoliticalscience)
• Political Science—Public Law Specialization (http://catalog.odu.edu/undergraduate/collegeofartsletters/politicalscienceandgeography/#minorsinpoliticalscience)
• Sociology (http://catalog.odu.edu/undergraduate/collegeofartsletters/sociologyandcriminaljustice/#minorsinsociologyandcriminaljustice)
• Sociology—Social Welfare Specialization (http://catalog.odu.edu/undergraduate/collegeofartsletters/sociologyandcriminaljustice/#minorsinsociologyandcriminaljustice)
• Studio Arts (http://catalog.odu.edu/undergraduate/collegeofartsletters/arts/#minorsinstudioarts)
• Theatre (http://catalog.odu.edu/undergraduate/collegeofartsletters/communicationandtheatres/#minorsintheatre)
• Women’s Studies (http://catalog.odu.edu/undergraduate/collegeofartsletters/womensstudies/#minorsinwomensstudies)
• World Languages and Cultures (http://catalog.odu.edu/undergraduate/collegeofartsletters/worldlanguagesandcultures)
  • French
  • German
  • Spanish

Business
• Accounting (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbaccounting/#accountingminor)
• Business Administration (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbbusinessadmin/#minorinbusinessadministration)
• Business Analytics (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsdicidesciences/#businessanalyticsminor)
• Economics (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/ba/economics/#minorineconomics)
• Financial Management (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsfinance/#financialmanagementrealstateandriskmanagementandinsurance/minors)
• Financial Management - Real Estate (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbfinance/#financialmanagementrealstateandriskmanagementandinsurance/minors)
• Financial Management - Risk Management and Insurance (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbfinance/#financialmanagementrealstateandriskmanagementandinsurance/minors)
• Information Systems and Technology (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsinformationstems/#informationstemsandtechnology/minors)
• International Business (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsinternationalbusiness/#internationalbusiness/minors)
• Management (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsmanagement/#management/minors)

• Marketing (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsmarketing/#marketing/minors)
• Maritime and Supply Chain Management (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbsmaritimeandsupplychainmanagement/#maritimeandsupplychainmanagement/minors)
• Military Leadership (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/militaryscienceleadershiparmyreservofficerstrainingcorps/#minorinmilitaryleadership)
• Public Service (http://catalog.odu.edu/undergraduate/stromecollegeofbusiness/bbbusinessadmin/#minorinpublicservice)

Education
• Addiction Treatment and Prevention (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/counselinghumanservices/#minorinaddictiontreatmentandprevention)
• Coaching Education (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorincounselinghumanservices)
• Exercise Science (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinexerciseeducation)
• Fashion Merchandising (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/stemeducationprofessionalstudies/#minorinfashionmerchandising)
• Health Education (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinhealtheducation)
• Human Services (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinhumanServices)
• Marketing Education (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/stemeducationprofessionalstudies/#minorinmarketingeducation)
• Park, Recreation and Tourism Management (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinparkrecreationandtourismmanagement)
• Secondary Education (professional education requirements) (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinsecondaryeducation)
• Special Education (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/commspecialeducation/#minorinspecialeducation)
• Speech-Language Pathology and Audiology (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/commspecialeducation/#minorinspeech-languagepathologyandaudiology)
• Sport Management (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinsportmanagement)
• Therapeutic Recreation (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/humanmovementst参谋/#minorinterapatheticrecreation)
• Training and Development (http://catalog.odu.edu/undergraduate/dardencollegeofeducation/stemeducationprofessionalstudies/#minorintraininganddevelopment)

Engineering and Technology
• Aerospace Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinaerospaceengineering)
• Civil Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorincivilengineering)
• Civil Engineering Technology—Construction (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorincivilengineeringconstruction)
• Computer Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorincomputerengineering)
• Electrical Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinelectricalengineering)

• Electrical Engineering Technology (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinelectricalengineeringtechnology)

• Engineering Management (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinengineeringmanagement)

• Environmental Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinenvironmentalengineering)

• Global Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minoringlobalengineering)

• Marine Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinneeringmanagement)

• Mechanical Engineering–Mechanics (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinneeringmanagement)

• Mechanical Engineering–Thermal Sciences (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinneeringmanagement)

• Mechanical Engineering Technology (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinneeringmanagement)

• Military Leadership (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinnmilitaryleadership)

• Modeling and Simulation (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinnmodelingandsimulation)

• Motorsports Engineering (http://catalog.odu.edu/undergraduate/frankbattencollegeofengineeringandtechnology/minorsbattencollege/#minorinnmotorsportsengineering)

• Mathematics–Statistics/Biostatistics Option (http://catalog.odu.edu/undergraduate/collegeofsciences/mathematicsstatistics/#minorinmathematics)

• Ocean and Earth Science (http://catalog.odu.edu/undergraduate/collegeofsciences/oceanearthatmosphericsciences/oceanandeartscienceminor)

• Physics (http://catalog.odu.edu/undergraduate/collegeofsciences/physics/#minorinphysics)

• Psychology (http://catalog.odu.edu/undergraduate/collegeofsciences/psychology/#minorinpsychology)

• Web Programming (http://catalog.odu.edu/undergraduate/collegeofsciences/computerscience/#minorinwebprogramming)

Health Sciences

• Community Health (http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/#minorincommunityhealth)

• Environmental Health (http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/#minorinenvironmentalhealth)

• Medical Technology (http://catalog.odu.edu/undergraduate/collegeofhealthsciences/medicaldiagnostictranslationalsciences/#minorinmedicaltechnology)

• Occupational Safety (http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/#minorinoccupationalhealth)

Sciences

• Biology (http://catalog.odu.edu/undergraduate/collegeofsciences/biologicalsciences/#minorinbiology)

• Chemistry (http://catalog.odu.edu/undergraduate/collegeofsciences/chemistrybiochemistry/#minorinchemistry)

• Computer Science (http://catalog.odu.edu/undergraduate/collegeofsciences/computerscience/#minorincomputerscience)

• Mathematics–Actuarial Mathematics Option (http://catalog.odu.edu/undergraduate/collegeofsciences/mathematicsstatistics/#minorinmathematics)

• Mathematics–Applied Mathematics Option (http://catalog.odu.edu/undergraduate/collegeofsciences/mathematicsstatistics/#minorinmathematics)

Interdisciplinary Minors

• Administrative Leadership and Ethics for Professional Roles

• Biomedical Engineering

• Children’s Rights

• Conservation Leadership

• Cybersecurity

• The Designed World

• Energy Engineering

• Environmental Issues and Management

• Health and Wellness

• The Impact of Technology

• The Urban Community

• World Cultures: Values and Visions